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Single Photon Quantum Cryptography

Abstract References Citing Articles (78)

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We report the full implementation of a quantum cryptography protocol using a stream of single photon pulses generated by a stable and efficient source operating at room temperature. The single photon pulses are emitted on demand by a single nitrogen-vacancy color center in a diamond nanocrystal. The quantum bit error rate is less than 4.6% and the secure bit rate is 7700 bits/s. The overall performances of our system reaches a domain where single photons have a measurable advantage over an equivalent system based on attenuated light pulses.

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